

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently amended) A photo-catalyst containing titanium fluoride nitride comprising,  $\text{Ti(IV)O}_a\text{N}_b\text{F}_c$  or a compound represented by  $\text{MeTi(IV)O}_a\text{N}_b\text{F}_c$  prepared by doping at least one metal Me selected from the group consisting of alkali or alkaline earth metals on  $\text{Ti(IV)O}_a\text{N}_b\text{F}_c$ , wherein, [b]  $b$  is 0.1 to 1, [c]  $c$  is 0.1 to 1 and [a]  $a$  is a value to maintain Ti(IV) and is decided in relation to [b]  $b$  and [c]  $c$ .

2. (Original) The photo-catalyst containing titanium fluoride nitride of claim 1 to which at least one promoter selected from the group consisting of Pt, Ni and Pd is loaded.

3. (Original) The photo-catalyst containing titanium fluoride nitride of claim 1, wherein  $\text{Ti(IV)O}_a\text{N}_b\text{F}_c$  possesses anatase structure and  $\text{MeTi(IV)O}_a\text{N}_b\text{F}_c$  possesses perovskite to anatase structure.

4. (Original) The photo-catalyst containing titanium fluoride nitride of claim 3 to which at least one promoter selected from the group consisting of Pt, Ni and Pd is loaded.

5. (Currently amended) A photo-catalyst for water splitting containing titanium fluoride nitride comprising,  $\text{Ti(IV)O}_a\text{N}_b\text{F}_c$  or a compound represented by  $\text{MeTi(IV)O}_a\text{N}_b\text{F}_c$  prepared by doping at least one metal Me selected from the group consisting of alkali or alkaline earth metals on  $\text{Ti(IV)O}_a\text{N}_b\text{F}_c$ , wherein, [b] b is 0.1 to 1, [c] c is 0.1 to 1 and [a] a is a value to maintain Ti(IV) and is decided in relation with [b] b and [c] c.

6. (Original) The photo-catalyst for water splitting containing titanium fluoride nitride of claim 5 to which at least one promoter selected from the group consisting of Pt, Ni, Ru and Pd is loaded.

7. (Previously presented) The photo-catalyst for water splitting containing titanium fluoride nitride of claim 5, wherein  $\text{Ti(IV)O}_a\text{N}_b\text{F}_c$  possesses anatase structure and  $\text{MeTi(IV)O}_a\text{N}_b\text{F}_c$  possesses perovskite to anatase structure.

8. (Original) The photo-catalyst for water splitting containing titanium fluoride nitride of claim 7 to which at least one promoter selected from the group consisting of Pt, Ni and Pd is loaded.

9. (Previously presented) A method for preparation of a photo-catalyst represented by  $\text{Ti(IV)O}_a\text{N}_b\text{F}_c$ , wherein a, b and c are

same as to claim 1 by baking titanium di-ammonium fluoride halide represented by  $(\text{NH}_4)_2\text{TiF}_d\text{X}_{6-d}$ , wherein, d is integer of 1-6, which contains at least F and ammonium halide by the ratio of equimolar or by the ratio of slightly excess of ammonium halide at the maximum temperature from 200 to 500 so as to form a starting material, then said starting material is nitrogenated by thermal synthesis in ammonia atmosphere containing from 0.02% to 10.00% of oxygen, air or water to ammonia by reduced mass to oxygen atom at the maximum temperature from 350 to 700 for over than 5 hours.

10. (Previously presented) A method for preparation of a photo-catalyst represented by  $\text{SrTi(IV)O}_a\text{N}_b\text{F}_c$ , wherein, a, b and c are same as to claim 1, by baking titanium di-ammonium fluoride halide represented by  $\text{TiF}_x\text{X}_{6-x}$  and/or  $(\text{NH}_4)_2\text{TiF}_d\text{X}_{6-d}$ , wherein x and d are integer of 1-6, which contains at least F and at least one compound selected from the group consisting of  $\text{SrO}$ ,  $\text{SrOH}$  and  $\text{SrX}$  so as to form a starting material or  $\text{SrTiF}_6$ , then said starting material or  $\text{SrTiF}_6$  is nitrogenated by thermal synthesis in ammonia atmosphere containing from 0.02% to 10.00% of oxygen, air or water to ammonia by reduced mass to oxygen atom at the maximum temperature from 350 to 700 for over than 5 hours.